

June 30, 2015



City of Manteca
Reclaimed Water Facilities Master Plan
Public Meeting No. 2



Meeting Agenda

- Introduction
- Review of Last Meeting
- Project Alternatives
- Next Steps
- Question and Answer Session



Review of Last Meeting

Review of Last Meeting

- We presented:
 - City is *already* treating wastewater to a level that makes it safe for many kinds of reuse
 - City is exploring expanded use of this recycled water by preparing a Reclaimed Water Facilities Master Plan
- Public comments:
 - Concerns over salts from recycled water accumulating over time



Project Alternatives

Alternatives

- **Local and Regional Alternatives**
- **All alternatives use existing treatment plant capacity to serve irrigation customers**
 - No additional treatment, except adding chlorine
- **All alternatives require new pumps and pipelines to reach irrigation customers**
 - Larger local alternatives also require new storage tank(s)

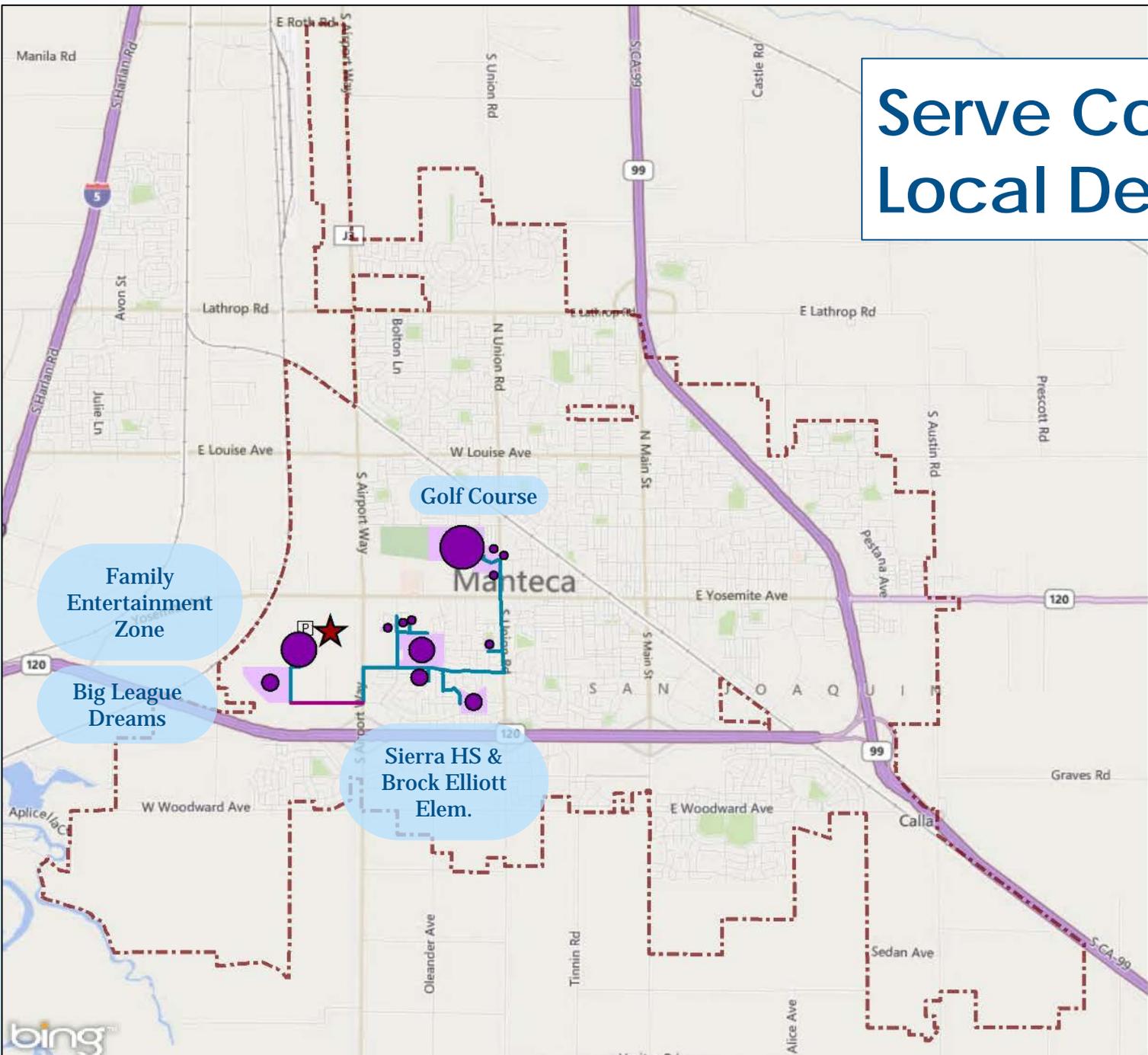
Alternatives

- **Projects not considered:**
 - **Indoor use** (e.g., flushing toilets)
 - **Direct potable reuse**
 - **Indirect potable reuse for Manteca**
 - Alternatives to Delta-Mendota Canal would mix recycled water with municipal supply for other cities
 - **Groundwater recharge**
 - **Industrial reuse**
 - No known customers within City limits

Local Alternatives

- **Serve landscape irrigation customers within the City**
 - Includes current uses and planned development
- **Two main options:**
 - **Serve “core” demands**
 - Those nearest the treatment plant
 - **Serve “all” demands**
 - Serve as many customers as economically feasible
 - Variations could focus on customers either north or south of Hwy 120

Serve Core Local Demands

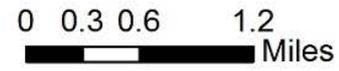


Legend

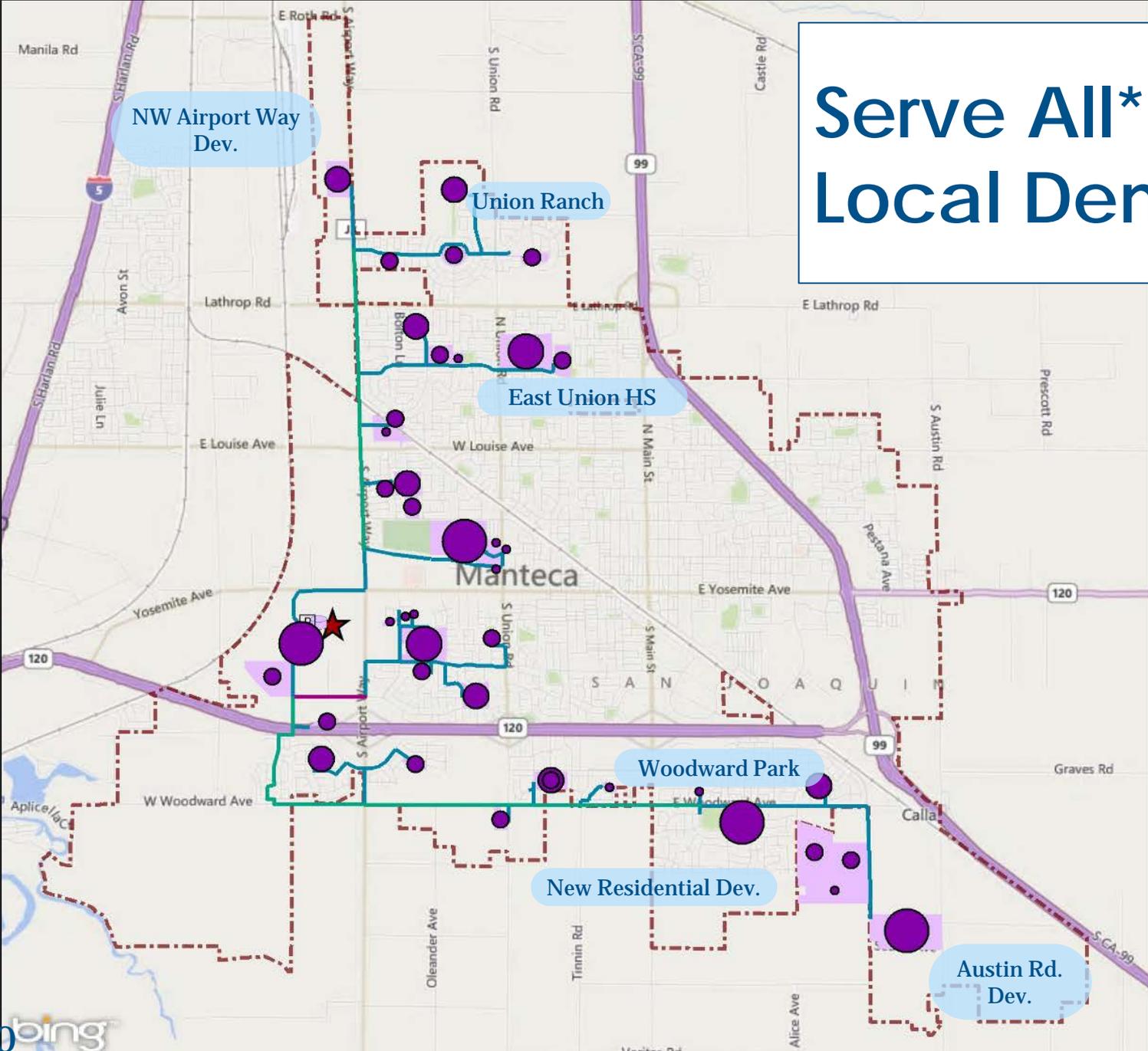
- City of Manteca
- Manteca WWTP
- Existing Pipe
- Proposed Pipe
- Pump Station

Demands Served

- < 10 AFY
- 10 - 30 AFY
- 30 - 50 AFY
- 50 - 100 AFY
- > 100 AFY



Serve All* Local Demands

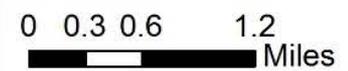


Legend

- City of Manteca
- Manteca WWTP
- Existing Pipe
- Repurposed Pipe
- Proposed Pipe
- Pump Station
- Storage

Demands Served

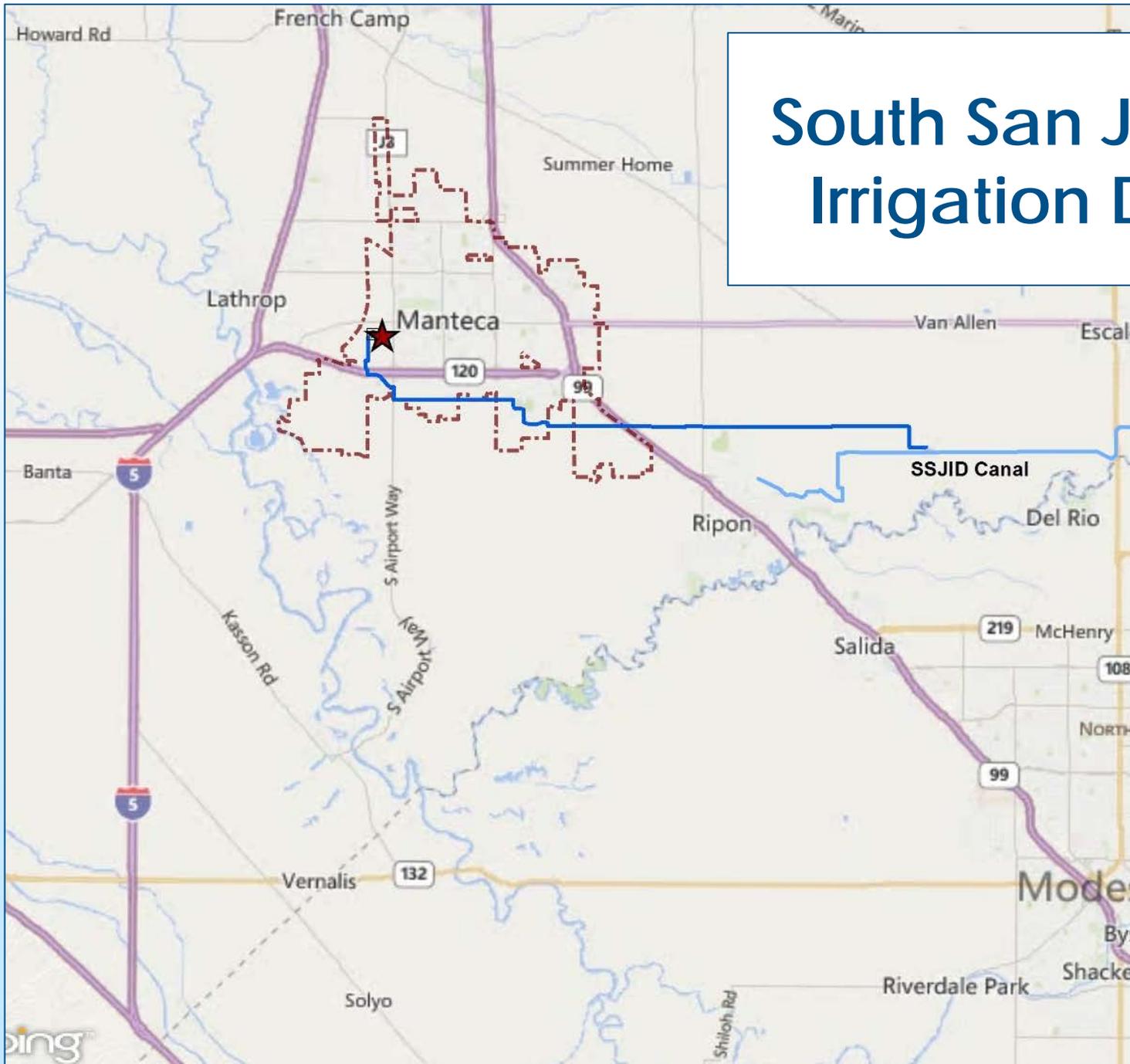
- < 10 AFY
- 10 - 30 AFY
- 30 - 50 AFY
- 50 - 100 AFY
- > 100 AFY



Regional Alternatives

- 4 Alternatives
 - South San Joaquin Irrigation District canal
 - Agricultural demands northeast of City
 - Offset over-pumping of groundwater in this area
 - Agricultural demands for a federal water contractor served by the Delta-Mendota Canal
 - Connect indirectly to Delta-Mendota Canal through another irrigation district, -OR-
 - Pipeline directly to Delta-Mendota Canal
- Considered current (4.3 MGD) and future (9 MGD) recycled water availability

South San Joaquin Irrigation District



Legend

-  City of Manteca
-  Manteca WWTP
-  Proposed Pipe

Pipeline Summary

16- to 24-inch
68,000 LF

Pump Summary

640-800 HP installed

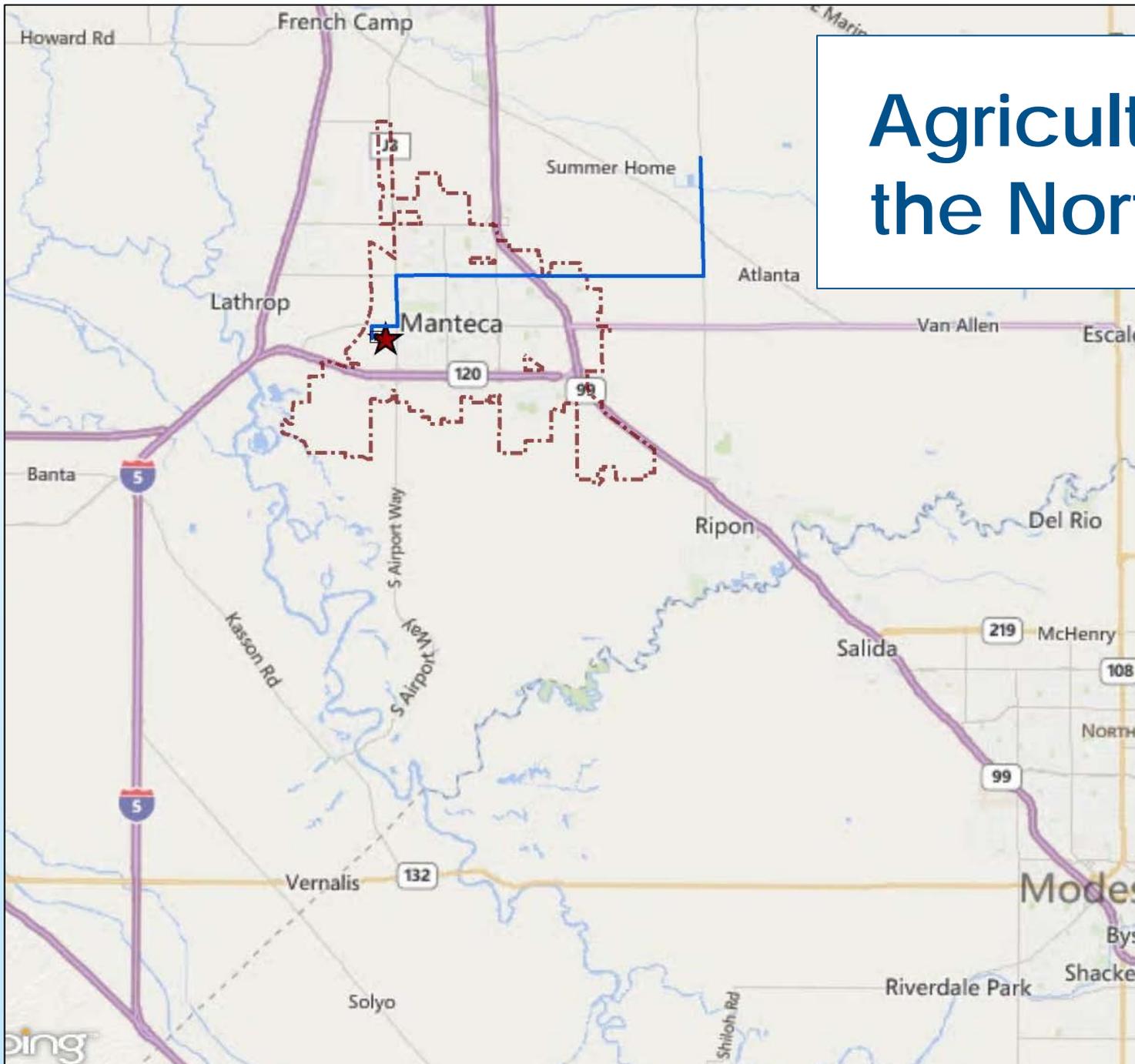


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Miles

Agriculture to the Northeast



Legend

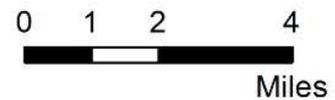
-  City of Manteca
-  Manteca WWTP
-  Proposed Pipe

Pipeline Summary

16- to 24-inch
53,000 LF

Pump Summary

480 HP installed



Miles

Indirect Delivery to Delta-Mendota Canal

Legend

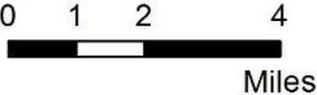
-  City of Manteca
-  Manteca WWTP
-  Proposed Pipe

Pipeline Summary

16- to 24-inch
41,000 LF

Pump Summary

320-400 HP installed



Pipeline to Delta-Mendota Canal

Legend

-  City of Manteca
-  Manteca WWTP
-  Proposed Pipe

Pipeline Summary

18- to 24-inch
86,000 LF

Pump Summary

640-1,280 HP installed



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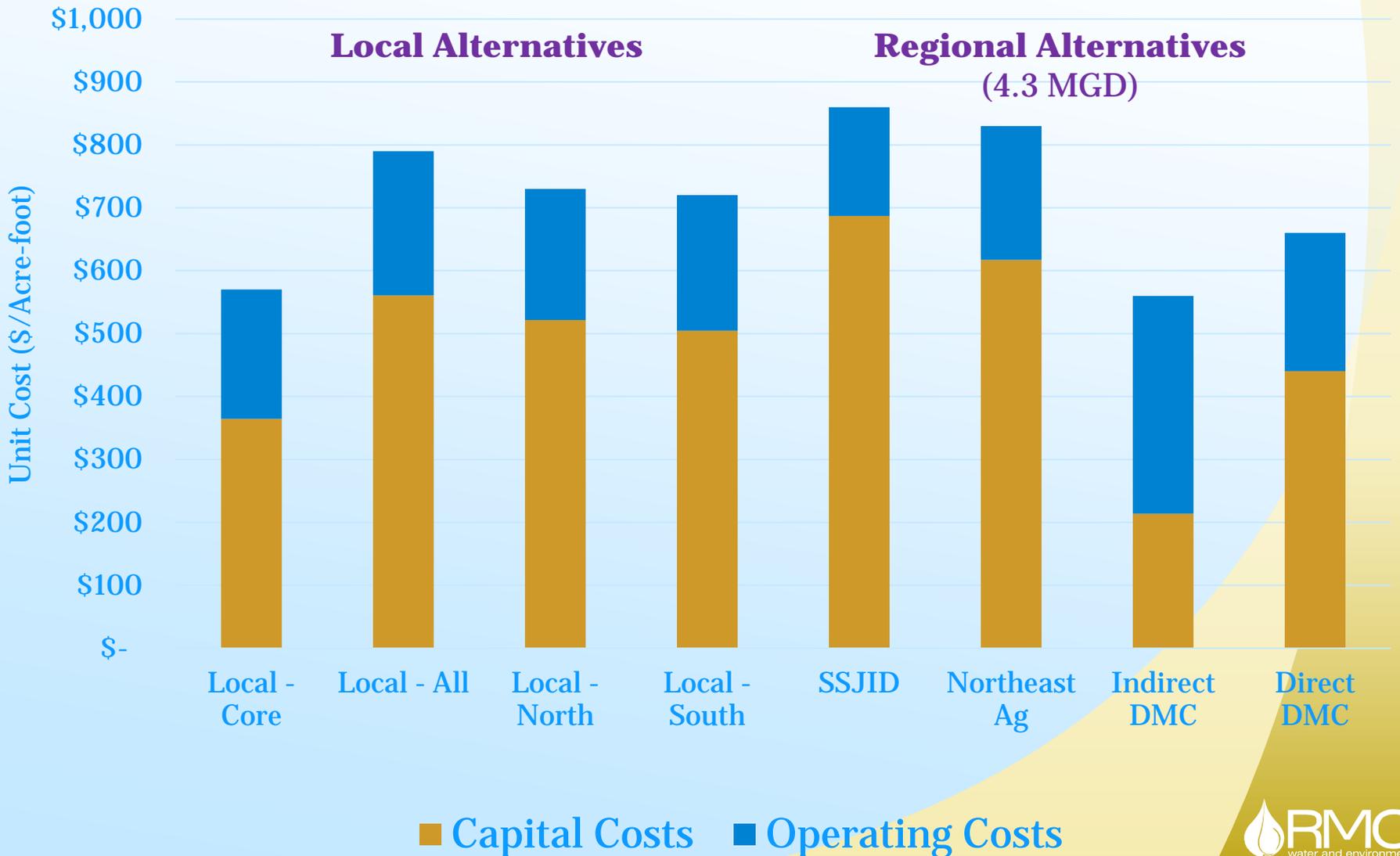


Miles

Alternative Assessment Criteria

- Cost

Alternative Assessment Criteria: Cost



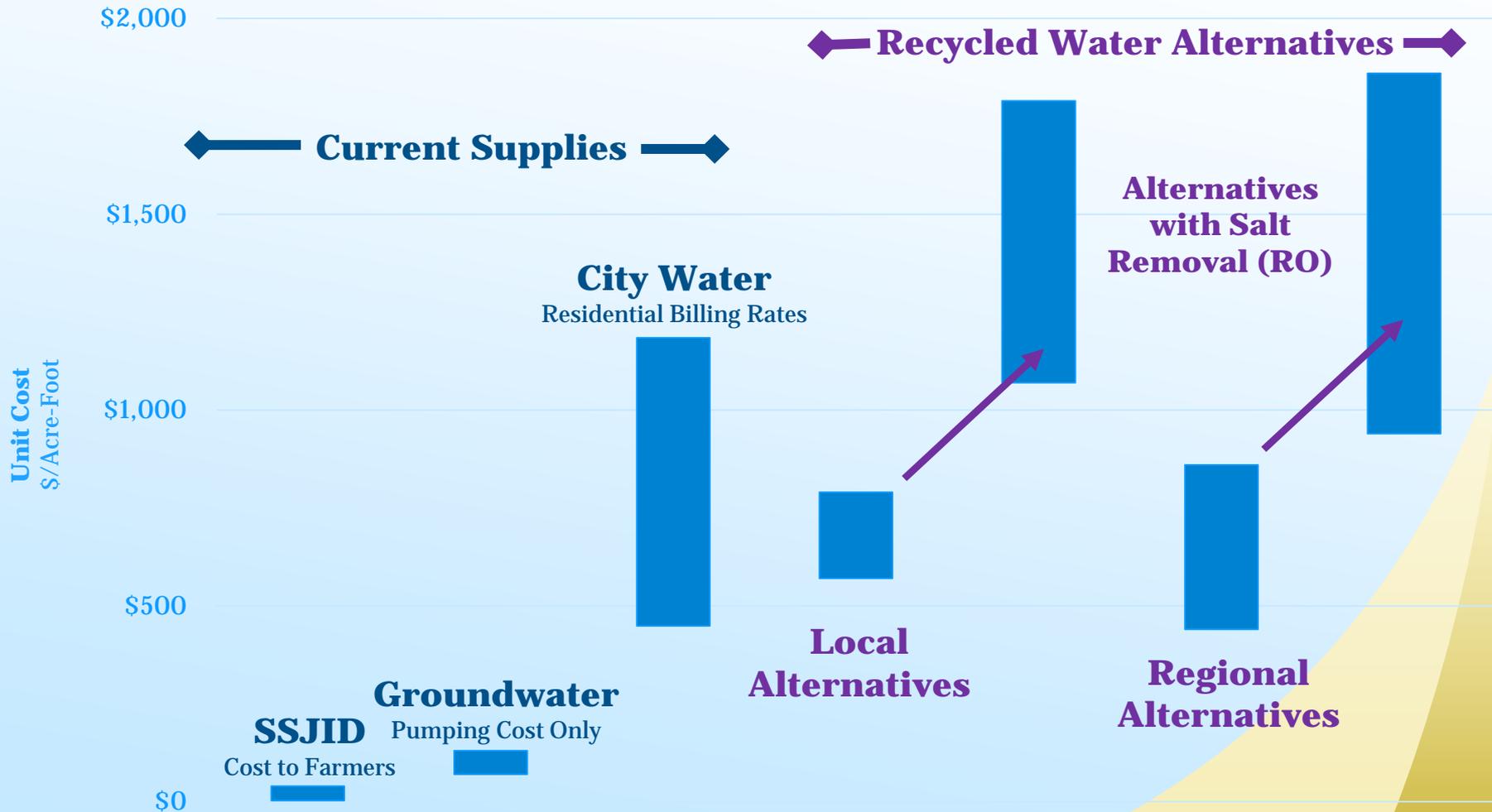
Alternative Assessment Criteria: Cost



Cost of Salt Removal

- Reverse Osmosis
 - Like desalination, removes salts present in recycled water
 - Energy-intensive and creates a brine disposal problem
 - Brine disposal can be half the cost due to Manteca's inland location
- Planning level cost estimate:
 - \$500-\$1,000 / AF
 - *This cost is on top of the costs already shown*
 - *Salt removal is not needed to meet water quality requirements for irrigation*

Alternative Assessment Criteria: Cost



Alternative Assessment Criteria

- Cost
- Environmental Impacts
 - Construction Impacts
 - Salt Loading
- Ease of Implementation
 - Institutional/Regulatory Complexity
 - Time to Implement
- Impact on Groundwater Sustainability
- Reliability
 - Water supply benefit to the City
 - Supply needed in all years, or only drought years?
- Project Compatibility
 - Compatibility with other alternatives
 - Compatibility with other City planning

Alternative Assessment Criteria

- What do you think we should be considering?
- What should we be considering the most?
 - We can weight criteria accordingly
- Do alternatives presented tonight have “fatal flaws”?

The background features a dynamic splash of water with numerous bubbles of varying sizes. A curved green shape is visible on the left side of the frame. A white rounded rectangle is centered in the lower half of the image, containing the text "Next Steps".

Next Steps

Next Steps

- Finalize list of assessment criteria
- Score each alternative
- Determine recommended project/project portfolio
- Develop an Implementation Plan
- Continue public outreach

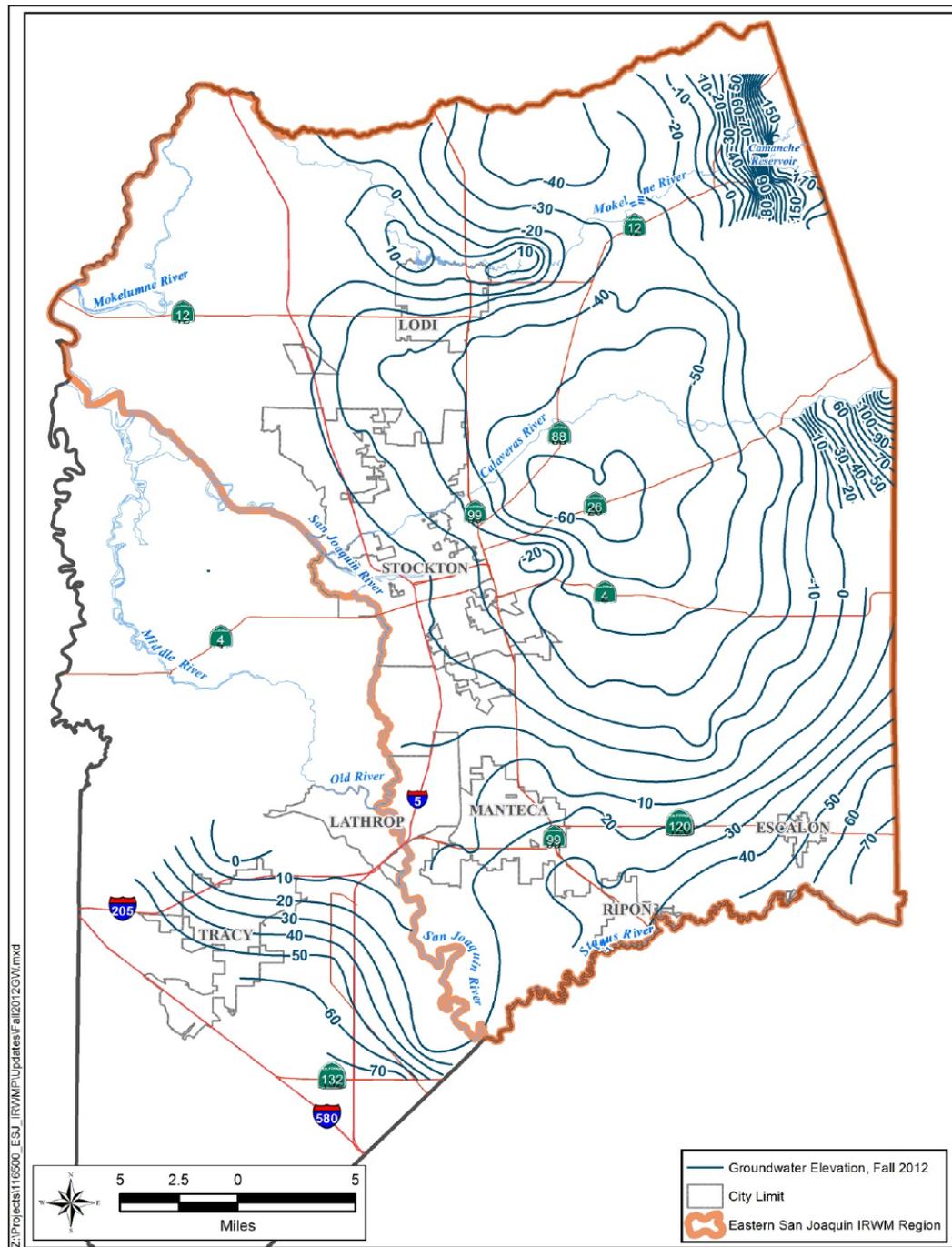
Next Set of Work Items



Questions??

Additional Slides

Cone of Depression



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Manteca's Recycled Water Quality is Similar to Other Successful Programs

